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PAR 211

MICRODENSITOMETER STUDY OF  
EFFECTS OF PROCESSING

Suppl. No. 3, Addition of Low  
Contrast Resolving Power and  
Modulation Transfer Function  
as Image Quality Measurements

23 January 1965

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SUBJECT: Microdensitometer Study of Effects of Processing

TASK/PROBLEM

1. Collect and study microdensitometric data from mission materials in an attempt to determine the effect of emulsions, processing, and printing on the characteristics of image edges. Also, attempt to determine the true location of image edges for mensuration purposes.

2. Supplement No. 3, Addition of Low Contrast Resolving Power and Modulation Transfer Function as Image Quality Measurements.

PROPOSAL

3. The low contrast resolving power and modulation transfer function of the following films having the listed processings will be measured:

	<u>Film</u>	<u>Processing</u>
a.	4400	Trenton, three conditions and special PAR 211 developers
b.	4401	Trenton, three conditions and special PAR 211 developers
c.	4404	Trenton, three conditions and special PAR 211 developers

4. The testing will consist of exposure of the films in a resolving power camera to test objects having a nominal contrast of 1.6:1 (density difference of  $0.2 \pm 0.02$ ). The conditions will be in accordance with the pertinent sections of the American Standard Method for Determining the Resolving Power of Photographic Materials, July 1963 (Proposed).

5. Testing of the films will also be conducted by the technique of modulation transfer measurement. The exposure is made in white light to a sinusoidal transmittance test object. The response function is then determined by reading out the processed film with a microdensitometer.

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6. The low contrast resolving power and modulation transfer function of the three films will be reported in addition to acutance, granularity, and medium contrast resolving power (Suppl. No. 1).

SCHEDULE

7. Testing will be completed within six months of the acceptance of this proposal.